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EXAMINER	
COUNTS, GARY W	

ART UNIT	PAPER NUMBER
1641	18

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/786,503	Applicant(s) ODA ET AL.	
	Examiner Gary W. Counts	Art Unit 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Status of the claims

The Amendment filed July 14, 2003 is acknowledged and has been entered.

Specification

1. The disclosure is objected to because of the following informalities: On page 19, line 8 of the specification the disclosure "ware" should be --were--.

Appropriate correction is required.

Claim Objections

2. Claim 21 is objected to because of the following informalities: Claim 21, line 2 the recitation "f human lipocalin-type" should be --of human lipocalin type--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 23, 25, 27, 29, 31 and 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. On page 8, lines 1-11 in the specification. Applicant discloses that although Hoffmann uses monoclonal

antibodies with clarified specificity, their assay method is complicated and they purify L-PGDS from serum samples, and then compare the strength of the bands on Western blot. On page 9, lines 20-25 in the specification. Applicant discloses determining the concentration of L-PGDS in a body fluid sample taken from a subject and comparing the determined concentration with a reference value set by determining the concentrations of L-PGDS in body fluid sample taken from healthy subjects. The applicant does not disclose body fluid sample taken from a subject prior to diagnosis of early nephropathy, with out purifying the human lipocalin-type prostaglandin D synthase. There is no description in the specification disclosing with out purifying the human lipocalin-type prostaglandin D synthase.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 21-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21, line 3 the recitation "a subject" is vague and indefinite. It is unclear if the subject is a healthy subject as recited in line 6 or if the subject has early-stage renal disease. It is recommended to change "a subject" to --a test subject--. See also deficiencies found in claims 22, 23 and 36.

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: a correlation step wherein an

increased concentration of human lipocalin-type prostaglandin D synthase in the test subject sample compared to the reference value set indicates that the test subject has early stage renal disease.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: a correlation step wherein an increased concentration of human lipocalin-type prostaglandin D synthase in the test subject sample compared to the reference value set indicates that the test subject has early stage renal disease.

Claim 22 is vague and indefinite because it is unclear how applicant intends to detect early-stage renal disease by using patient sample as a reference value compared to a reference value of healthy subjects. It appears that there are two sets of reference values. Where is the test subject sample?

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: a correlation step wherein an increased concentration of human lipocalin-type prostaglandin d synthase in the test subject sample compared to the reference value set indicates that the test subject has early stage renal disease.

Claim 23 is vague and indefinite because it is unclear how applicant intends to detect early-stage renal disease by using patient sample as a reference value

compared to a reference value of healthy subjects. It appears that there are two sets of reference values. Where is the test subject sample?

Claim 30 is vague and indefinite because it is not related to a method step, only to an analysis step.

Claim 31 is vague and indefinite because it is not related to a method step, only to an analysis step.

Claim 32 is vague and indefinite because it is not related to a method step, only to an analysis step.

Claim 33 is vague and indefinite because it is not related to a method step, only to an analysis step.

Claim 34 is vague and indefinite because it is not related to a method step, only to an analysis step.

Claim 35 is vague and indefinite because it is not related to a method step, only to an analysis step.

Claim 36 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: a correlation step wherein an increased concentration of human lipocalin-type prostaglandin D synthase in the test subject sample compared to the reference value set indicates that the test subject has early stage renal disease.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 21, 22, 24, 26, 28 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al (Molecular characterization of beta-trace protein in

human serum and urine: a potential diagnostic marker for renal disease, Glycobiology, vol 7, no 4 p 499-506 (1997)).

Hoffman et al disclose that beta-trace protein (lipocalin-type prostaglandin D synthase (L-PGDS)) was isolated from cerebrospinal fluid, serum, plasma and urine samples of normal volunteers and sera and hemofiltrate of patients with chronic renal failure (abstract). Hoffman et al disclose that serum L-PGDS concentration in patients with end-stage renal failure increased as compared to the L-PGDS of the normal volunteers. Hoffman et al disclose that serum beta-trace (L-PGDS) concentrations were determined by quantitative immunoaffinity chromatography in conjunction with amino acid sequencing and SDS gel electrophoresis and revealed a broad range of concentrations (p. 504, col 2, lines 36-60).

Even tough Hoffman et al is silent on a method of detection of an early-stage renal disease, Hoffman et al teaches that beta-trace protein (L-PGDS) accumulates more significantly in serum in pathological conditions than other proteins in current use and that the beta-trace protein may be used for the study and early diagnosis of renal diseases (p. 505, lines 14-21). Therefore, it would have been obvious to one of ordinary skill in the art to have a reasonable expectation of success to use the method of Hoffman et al for the detection of early-stage renal disease.

With respect a urine sample as recited in the instant claims. Hoffman et al disclose that the proteins of urinary and serum-derived beta-trace proteins are identical (p. 501 and 504) and Hoffman et al further teaches the detection of beta-trace proteins

in urine. Therefore, it would have been obvious to one of ordinary skill in the art to use urine as the sample for beta-trace proteins.

Response to Arguments

11. Applicant's arguments filed July 1, 2003 have been fully considered but they are not persuasive.

Applicant argues that Hoffman et al does not teach that L-PGDS accumulates in urine. Therefore, it would not have been obvious to a person of ordinary skill in the art that the detection of L-PGDS in urine can be used for detecting early stage renal diseases. This is not found persuasive because there is no recitation in the claims that L-PGDS accumulates in urine. Further, the claim only requires determining L-PGDS in a urine sample and comparing it to that of a healthy subject. And because Hoffman teaches that the proteins of urinary and serum-derived beta-trace proteins are identical (p. 501 and 504) and Hoffman et al also teaches the detection of beta-trace proteins in urine. Therefore, it would have been obvious to one of ordinary skill in the art to use urine as the sample for the detection of beta-trace proteins.

Applicant argues that Hoffman et al. has not recognized that early stage renal diseases can be detected prior to diagnosis of early nephropathy. This is not found persuasive because Hoffman et al teach the use of healthy control patients (i.e. samples taken from patients prior to diagnosis of early nephropathy) and these control patients read on the instantly recited claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary W. Counts whose telephone number is (703) 305-1444. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (703) 305-3399. The fax phone number for the organization where this application or proceeding is assigned is (703)308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Gary Counts

Gary W. Counts
Examiner
Art Unit 1641
December 9, 2003

LONG V. LE
SUPERVISORY PATENT EXAMINER
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12/10/03